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TRANSMITTAL FORM

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Total Number of Pages in This Submission	26

Application Number	09/465,415
Filing Date	December 16, 1999
First Named Inventor	Bryan S. Hallberg
Art Unit	2621
Examiner Name	Boccio, Vincent F.
Attorney Docket Number	7146.0055

ENCLOSURES ***(check all that apply)***

- ☒ Fee Transmittal Form
  - ☒ Fee Attached
- ☐ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) ____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☒ **Appeal Communication to TC** (Appeal Notice, **Brief**, Reply Brief)
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below)*:

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm	Chernoff Vilhauer McClung & Stenzel, LLP Suite 1600 601 S.W. Second Avenue Portland, OR 97204		
Signature	Kurt		
Printed Name	Kurt Rohlfs		
Date	May 7, 2007	Reg. No.	54,405

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Signature	Kurt		
Typed or printed name	Kurt Rohlfs	Date	May 7, 2007

PTO/SB/17 (12-04v2)
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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL for FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 500

Complete If Known	
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METHOD OF PAYMENT (check all that apply)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee($)	Fee($)	Fee($)	Fee($)	Fee($)	Fees Paid ($)
Utility	300	150	500	250	200	100	____
Design	200	100	100	50	130	65	____
Plant	200	100	300	150	160	80	____
Reissue	300	150	500	250	600	300	____
Provisional	200	100	0	0	0	0	____

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims		Fee($)		Fee Paid ($)
____	-20 or HP=	____	x	____	=	____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims		Fee($)		Fee Paid ($)
____	- 3 or HP=	____	x	____	=	____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
____	____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)	Fee Paid ($)
____	- 100 =	____	/ 50 =	____	(round **up** to a whole number) x		= ____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	____
Other (e.g., late filing surcharge) : Appeal Brief	$500

SUBMITTED BY

Signature	Kurt Rohlfs	Registration No. (Attorney/Agent) 54,405	Telephone: 503-227-5631
Name (Print/Type)	Kurt Rohlfs		Date: May 7, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Hallberg	Group Art Unit:	2621
Serial No.:	09/465,415	Examiner:	Boccio, Vincent F.
Filed:	December 16, 1999	Customer No.:	55648
Title:	METHOD AND APPARATUS FOR STORING MPEG2 TRANSPORT STREAMS USING A CONVENTIONAL DIGITAL VIDEO RECORDER		

APPELLANT'S BRIEF

Chernoff, Vilhauer, McClung, and Stenzel, L.L.P.
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May 7, 2007

Mail Stop APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

BACKGROUND

This brief is in furtherance of the Notice of Appeal, filed in this case on March 5, 2007.

The fees required under 37. C.F.R. § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief comprises these subjects under the headings, and in the order, set forth below:

I. Real Party in Interest

II. Related Appeals and Interferences

III. Status of Claims

IV. Status of Amendments

V. Summary of Claimed Subject Matter

VI. Grounds for Rejection to be Reviewed on Appeal

VII. Argument

VIII. Conclusion

IX. Claims Appendix

X. Evidence Appendix

XI. Related Proceedings Appendix

The final page of this brief bears the practitioner's signature.

REAL PARTY IN INTEREST

The real party in interest in this appeal is Sharp Laboratories of America, Inc., assignee of the captioned application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN THE APPLICATION

There are 19 claims currently pending in the application.

B. STATUS OF ALL CLAIMS

Claims canceled: 20-23

Claims withdrawn: None

Claims pending: 1-19

Claims allowed: None

Claims objected to: None

Claims rejected: 1-19

C. CLAIMS ON APPEAL

Claims 1-19 are on appeal.

A copy of the claims on appeal is set forth in the Claims Appendix to this Brief.

STATUS OF AMENDMENTS

No amendment was filed after final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter is most broadly set forth in seven independent claims. Independent claim 1 is generally directed to a method of processing MPEG transport stream data. Specifically, the claimed method includes two steps. The first step is copying the MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one DIF block formatted for digital video. *See, e.g.,* Specification at p. 5,

lines 21-22; p. 7, lines 25-27; and p. 8, lines 4-8; *See also* FIGS 5-7. The second claimed step is storing the at least one DIF data block, which includes the MPEG data, on a storage medium in a digital video storage format. *See* Specification at p. 5, lines 26-27.

Independent claim 5 is generally directed to a method of storing MPEG transport stream data on a digital video recorder. Specifically, the claimed method includes two steps. The first step is copying the MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one video DIF block of a digital video frame, excluding the first byte of the data field. *See, e.g.,* Specification at p. 5, lines 21-22; p. 7, lines 25-27; and p. 8, lines 4-8; *See also* FIGS 5-7. The second claimed step is storing the digital video frame, which includes the MPEG formatted data, on a storage medium. *See* Specification at p. 5, lines 26-27.

Independent claim 10 is generally directed to a method of storing MPEG transport stream data with a digital video recorder. Specifically, the claimed method includes four steps. The first step is copying the MPEG transport stream data, in an MPEG format and including an MPEG header, into respective data fields of at least one DIF block of a digital video frame not including the first byte of the data block. *See, e.g.,* Specification at p. 5, lines 21-22; p. 7, lines 25-27; and p. 8, lines 4-8; *See also* FIGS 5-7. The second claimed step is copying the digital video frame to an isochronous data packet. *See* Specification at p. 5, lines 22-25. The third claimed step is extracting the digital video frame from the isochronous data packet. *Id.* at lines 25-26. The fourth claimed step is storing the digital video frame, which includes the MPEG formatted data, in a digital storage medium. *See* Specification at p. 5, lines 26-27.

Independent claim 13 is generally directed to a method of storing MPEG transport stream data on a digital video recorder. Specifically, the claimed method includes four steps. The first

step is copying the transport stream data, in an MPEG format and including an MPEG header, into an isochronous data transfer packet. *See* Specification at p. 5, lines 21-25. The second claimed step is extracting the transport stream data, in an MPEG format, from the isochronous data transfer packet. *Id.* at lines 25-26. The third claimed step is copying the transport stream data, in an MPEG format, into respective data fields of at least one DIF block of a digital video frame not including the first byte of the DIF block. *See* Specification at p. 7, lines 25-27. The fourth claimed step is storing the digital video frame, which includes said MPEG formatted data. *See* Specification at p. 5, lines 26-27.

Independent claim 16 is generally directed to a method of storing MPEG transport stream data including an MPEG header, with a digital video recorder. Specifically, the claimed method includes six steps. The first step is accumulating a quantity of said MPEG transport stream data equal to a digital video frame data quantity. *See* Specification at p. 9, lines 16-19.The second claimed step is copying the quantity of MPEG transport stream data, in an MPEG format, into a data field of at least one DIF block of a digital video frame. *Id.* at 14-20. The third claimed step is repeating the copying of the quantity of said MPEG transport stream data, in an MPEG format into a data field of another DIF block as another quantity of MPEG transport stream data is accumulated. *Id.* at 20-22. The fourth claimed step is copying at least one digital video frame including a DIF block to a data transfer packet. *See* Specification at p. 5, lines 22-25. The fifth claimed step is extracting the at least one digital video frame from said data transfer packet. *Id.* at 25-26. The sixth claimed step is storing the at least one digital video frame, which includes the MPEG formatted data, not converted to another format. *See* Specification at p. 5, lines 26-27.

Independent claim 17 is generally directed to a method of storing MPEG transport stream data with a digital video recorder. Specifically, the claimed method includes six steps. The first

step is copying the MPEG transport stream data to a data transfer packet. *See* Specification at p. 5, lines 21-25. The second claimed step is extracting the MPEG transport stream data from the data transfer packet. *Id.* at 26-27. The third claimed step is accumulating a quantity of the MPEG transport stream data equal to a digital video frame data quantity. *See* Specification at p. 9, lines 16-19. The fourth claimed step is copying the quantity of the MPEG transport stream data, in an MPEG format and including an MPEG header, into the data field of a DIF block of a digital video frame. *See* Specification at p. 7, line 27 – p. 8, line 8. The fifth claimed step is repeating the copying of the quantity of the MPEG transport stream data, in an MPEG format and including an MPEG header, into the data field of another DIF data block as another quantity of MPEG transport stream data is accumulated. *See* Specification at p. 9, lines 20-25. The sixth claimed step is storing the digital video frame, which includes the MPEG formatted data. *See* Specification at p. 5, lines 26-27.

Independent claim 18 claims an apparatus having two elements. Specifically, the first element is an accumulation buffer to accumulate a predetermined quantity of MPEG formatted data. *See* Specification at p. 9, lines 16-19. The second claimed element is a frame packetizer to copy the MPEG data, in an MPEG format and without conversion to another format, into a DIF data block of a digital video frame not including the first byte of the data block. *See* Specification at p. 5, lines 20-22; p. 7, lines 25-27.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection presented for review are (1) whether claims 1-4 are unpatentable under 35 U.S.C. §103(a) over Inoue et al., U.S Patent No. 5,832,085 (hereinafter Inoue), in view of Okuyama et al., U.S. Pat. No. 5,987,126 (hereinafter Okuyama); (2) whether claims 5-15 are

unpatentable under 35 U.S.C. §103(a) over the aforementioned combination of Inoue and Okuyama, and in further view of Oskouy et al., U.S. Patent No. 6,791,947 (hereinafter Oskouy); (3) whether claims 16-18 are unpatentable under 35 U.S.C. §103(a) over the aforementioned combination of Inoue and Okuyama, and in further view of Yanagihara et al., U.S Patent No. 5,684,917 (hereinafter Yanagihara); and (4) whether claim 19 is unpatentable under 35 U.S.C. §103(a) over the combination of Inoue, Okuyama, Yanagihara, and in further view of Takeda et al, U.S Patent No. 6,101,215 (hereinafter Takeda).

ARGUMENT

1. Rejection of claims 1-4 under 35 U.S.C. § 103(a) over the combination of Inoue and Okuyama

Independent claim 1, from which claims 2-4 respectively depend, includes the limitations of (1) "copying . . . MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one DIF block formatted for digital video;" and (2) "storing said at least one DIF data block, that includes said MPEG data, on a storage medium in a digital video storage format." Neither of these limitations is either disclosed in, or suggested by, the prior art.

At the outset, some background regarding the claimed invention is warranted. Terrestrial broadcasts of video content are often transmitted by an analog signal, e.g. using frequency or amplitude modulation of a carrier wave. The analog signal could be transmitted over the air and received by an antenna, such as an over-the-air broadcast of a television network signal, or transmitted over a wire or cable, such as an analog cable signal used in previous decades. Early devices used to record these signals were also analog in nature, such as a standard recordable

VCR, which received the modulated carrier wave and used it to magnetize a tape moving over the heads of the VCR. However, many modern VCRs, called DVRs for Digital Video Recorders, digitize the incoming analog signal and store it on a digital medium such as a hard drive, compact disc etc. Thus, a function of a DVR is to receive an incoming analog signal, digitize that signal, and record the digitized data onto a digital storage medium where it can be easily copied, and/or used to reproduce the original analog signal for playback.

Like analog formats (e.g. VHS, Betamax, laserdisc, etc.) for the analog recording of an incoming signal, formats were established to *digitally* record a received analog signal. Specifically, the format that became most commercially predominant was the DVC transmission standard. The DVC transmission standard is described in both the Okuyama reference cited by the Examiner and the present specification at p. 7, lines 5-24. Generally speaking, the DVC standard receives an incoming analog signal, both video and audio, and digitizes the signal in a series of "1s" and "0"s to be stored in the payload portion of DV data packets, which are, according to the standard, externally organized into a number of DIF sequences that are each, in turn, internally organized into a sections, e.g. header, DIF data blocks, etc. This uniform standard is used to both encode the incoming analog signal into the digital format and decode the digital data to produce, from the stored digital data, an analog signal that can then be output to a television set or other monitor when replaying the video content.

As an alternative to analog broadcasts, a great deal of present video content is not only broadcast digitally from its inception, but is often captured digitally, e.g. through a digital camera having a CCD or CMOS sensor. To accommodate both the digital capture and digital transmission of video, digital video formats were also developed, most notably MPEG. Unlike the DVC standard, which is concerned with converting an analog signal representative of

images/audio into a digital format, the MPEG standard is more broadly concerned with digitally representing the image/audio *itself*; thus, MPEG standard differs from the DVC standard on a fundamental level, as can be easily seen by comparing FIG. 14 of Okuyama (showing an MPEG data block having a header and a payload packet) with FIGS 5-12(showing the organization of the DVC format).

As can be appreciated from both the figures just cited along with the foregoing discussion, the DVC standard and the MPEG standard are wholly separate formats. The MPEG standard specifies an organizational structure for digitally representing an image itself, and specifically the images that are frames of a video. The DVC standard, being developed to digitize an analog broadcast signal (thus digitizing amplitudes and frequencies of a modulated carrier wave) does not digitally represent images, but digitally represents the modulated carrier wave which needs to be reconstructed from the recorded digital data, so that an analog device can decode the analog signal to produce the images originally broadcast.

DVRs, which use the DVC standard to digitize analog signals, have relatively widespread market penetration as compared to MPEG recorders which are used to simply digitally copy an MPEG signal to a storage medium. This is problematical in that broadcast media is currently converting to digital MPEG transmission. To record this content, users either have to invest in a new MPEG recorder, rendering their DVR obsolete, or record the video content from the downgraded analog signal produced by the MPEG decoder before it is passed on to the television/display.

Whereas the prior art treated the DVC and MPEG standards as fundamentally incompatible, the presently claimed subject matter describes a novel method of using a DVR recorder, conventionally used to record digitized *analog* signals, to store digital MPEG data for

later playback through an MPEG decoder. Thus, for example, using the methods disclosed in the present application, a set-top cable box, receiving a digital MPEG cable signal can be connected to an existing DVR and "hijack" that DVR as an MPEG recorder. A user of that set top box/DVR thus benefits in that an expensive MPEG recorder need not be purchased in order to digitally record the unaltered MPEG content.

While the specific limitations of independent claim 1, from which claims 2-4 respectively depend, will be addressed in detail shortly, the applicant notes that when rejecting each of claims 1-4 in view of the cited combination of Inoue with Okuyama, the Examiner takes the anomalous position that the DVC transmission format, used by standard DVRs, *incorporates* the MPEG standard. For example, at page 2 of the most recent office action, the Examiner states that:

> Since the DVC standard is recording DIF blocks and *records MPEG transport stream in accord to the standard* and further the copy management data is inserted into an MPEG transport stream header, there is a transport stream header recorded for the MPEG transport stream data.

Also, the Examiner states on page 3 of the office action:

> DVR is really the DVC in this case, yes it is a digital Video recorder, but, DVC is a tape recording format and also *a transmission format which the MPEG data is said to be encapsulated into, some of the DIF blocks, are the MPEG transport stream data, with a DIF format header.*

(emphasis added, both quotations). This assertion by the Examiner, that the DVC standard incorporates the MPEG standard, is unsupported by any disclosure in the prior art, cited or otherwise. As explained below, the Examiner quotes a passage of Okuyama ostensibly supporting this assertion, but is instead being read by the Examiner completely out of context.

Okuyama generally relates to copy protection flags preventing unauthorized copying of digital transport data, in *either* MPEG or DVC formats, as well as other digital formats. Accordingly, Okuyama discloses an apparatus capable of preserving the copy protection data

encoded in whatever particular format that a player device, such as a cassette player or set top box happens to output, when copying or converting video to the format of a storage or recording device. In other words, even though a video storage device, such as an MPEG recorder, may encode a recorded video signal in a different format than the format into which the copy protection data was originally inserted and decoded by a set-top box, the apparatus of Okuyama will retrieve that copy protection data and insert it into the proper location in the data stream of the recording device, as per the format of the recording device.

In the "Background of the Invention", Okuyama broadly discusses the copy protection standard already adopted for analog standard-definition and high-definition broadcasts, along with the DVC recording of these analog broadcasts. It states that:

> these SD and HD standards . . . already have provisions about the recording format and the digital interface format for the copy protection management in the DVC. That is, for both of the recording format and the digital interface format, the copy generation management information is inserted in the source control packet.

See Okuyama at col. 2 lines 10-17. This quoted passage cites a simple, uncontroversial proposition – the DVC format already specifies where to put the copy protection information within the transmitted data stream. In the very next paragraph, Okuyama begins:

> "*In addition to the DVC standard, it is specified that the copy generation management information will be inserted in the header of the MPEG2 transport stream.* However, other standards . . . have no provision for where in the packet or interface format of various digital signals and devices the copy generation management information is inserted.

Id. at col. 2 lines 17-23(emphasis added). This latter passage merely indicates that, *like* the DVC standard, the MPEG standard also specifies where to insert copy protection information. But the Examiner is misinterpreting the italicized language in the quote as somehow disclosing that the MPEG data stream *is a part of the DVC standard*, which includes DIF blocks, and which is used

by digital video recorders when recording content. *See, e.g.* Office Action at p. 2 (quoting the Okuyama passage printed above, to support the contention that the DVC standard "records MPEG transport stream in accord to the standard.").

The Examiner appears to be misinterpreting the phrase "in addition to" at col. 2 line 17 of Okuyama as meaning "as part of" or "included within." Not only is this reading incorrect – MPEG and DV standards are wholly separate formats - but Okuyama later flatly contradicts the Examiner's assertion. *See, e.g.* Okuyama at col. 3 lines 4-8 (stating that MPEG2 transport packets and DVC formatted data are distinct); *see also Id.* at col. 3 lines 23-25 and FIGS 2 and 3 (showing that the MPEG transport stream packet is formatted differently than a DVC formatted data packet).

In particular, FIG. 4 of Okuyama shows the apparatus disclosed in that reference. When describing this apparatus, Okuyama notes a variety of types of player devices each having different output formats, such as a digital VCR (21) outputting standard definition DV formatted video or a DVD player or set top box (22) that outputs MPEG formatted data in either standard or high definition. Okuyama discloses an IEEE interfaces 27, 33, 41 capable of transporting data from these respective formats into the recording device, where it is converted to the appropriate recording format. Copy protection is preserved by reading the copy protection data in whatever format it happens to be output from the player device, *either* the MPEG set top box 22 *or* the digital VCR 21, converting the copy protection data to the format of the storage device and inserting it into the data stream of the storage device after the remainder of the input data has been converted to the format of the storage device.

Thus, regardless of whether the video data recorded in the device 23 originates from either the digital VCR 21 or the MPEG player 22, in neither instance is any MPEG data inserted,

"in an MPEG format and including an MPEG header, into the respective data fields of at least one DIF block formatted for digital video" as required by independent claim 1. Nor is any DIF block, "that includes said MPEG data" stored "on a storage medium in a digital video storage format" as also required by independent claim 1. In fact, a cursory review of FIG 4 shows that the MPEG data from the MPEG player, and the DV formatted data from the digital VCR are routed *independently* into the IEEE interface 41 of the recording device.

As stated earlier, independent claim 1, from which dependent claims 2-4 respectively depends, includes the limitations of "copying . . . MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one DIF block formatted for digital video" and "storing said at least one DIF data block, that includes said MPEG data, on a storage medium in a digital video storage format." Neither of these limitations is even remotely suggested by any of the prior art cited by the Examiner. It appears that the Examiner's rejection of these claims is based on a misinterpretation of a passage in Okuyama, which although disclosing that, *like the DVC standard*, the MPEG standard also specifies the location of any copy flag protection data, is incorrectly read by the Examiner as stating that the MPEG standard is a part of the DVC standard. Therefore, the applicant respectfully requests that the Examiner's rejection of claims 1-4 be overturned.

2. Rejection of claims 5-15 under 35 U.S.C. § 103(a) over the combination of Inoue, Okuyama, and Oskouy

Independent claim 5, from which claims 6-9 respectively depend, includes the limitations of "copying said MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one video DIF block of a digital video frame"

and "storing said digital video frame, that includes said MPEG formatted data, on a storage medium." As explained with respect to the Examiner's rejection of claim 1, neither of these limitations are disclosed Inoue or Okuyama. Furthermore, the Examiner cites Oskouy only for its disclosure of a feature immaterial to either of these limitations, hence claims 5-9 are also patentably distinguished over the cited prior art.

In addition, independent claim 5 includes the limitation of MPEG data being inserted "into the respective *data fields* of at least one video DIF block of a digital video frame not including the first byte of said *data field.*" (emphasis added) The Examiner alleges that this limitation is disclosed by Inoue as modified by Oskouy. *See* Office Action dated January 27, 2005 at pp. 4-5. Inoue generally discloses a digital recording method in which video input of various formats may be recorded as MPEG video by a video recorder. MPEG data is transported in packets comprising a header section and a payload section, where the payload section includes the data representative of the video frame, and where the header contains statistical or other data about the frame or the sequence of frames of which the data packet is a part. For example, the header could include information regarding copy flags, as discussed previously. *See* Okuyama at col. 2 lines 17-20. With respect to Inoue, the Examiner argues that:

> [The claim limitation] reads on, in view of not describing the purpose of not including in the claims, col. 4 lines 54- [of Inoue] 'default header is modified', therefore, not including, 'the original or the default, but providing a modified version; in an alternative reading, 'to insert dummy data into the header', therefore, not including the original or first byte, by changing the header, which the header reads on at least a first byte, wherein headers are just that at the head or are first, therefore, Inoue is adapted to change or modify the at least the first byte."

See Office Action dated January 27, 2005 at p. 4-5. In the specific passage cited by the Examiner, Inoue discloses that when converting video of an alternate format into MPEG, header

information from the alternate format will be transferred to the MPEG headers. However, Inoue notes that "[i]n some embodiments it may be necessary to insert dummy data into the *[MPEG] header* in order to ensure that the packet length is of an acceptable length." *See* Inoue at col. 4 lines 58-61 (emphasis added).

Oksouy discloses a method of routing data packets to a plurality of receivers in a network that uses destination information in each of the packets to determine which receiver to sent the respective packets. With respect to Oskouy, the Examiner argues that the reference "teaches [at] col. 2 lines 14-25, a technique of screening header layer data associated with the data packet for errors and dropping a bad data packet prior to transferring any portion of the data packet to packet memory." This prescreening technique occurs prior to delivery of the packets to their respective receivers. *See* Oskouy at col. 2 lines 5-13.

Neither of these passages has any applicability to the presently claimed limitation of inserting MPEG data "into the respective *data fields* of at least one video DIF block of a digital video frame not including the first byte of said *data field.*" Nor are these respective passages even relevant to each other. Inoue's disclosure of the insertion of dummy data into an MPEG header is only relevant when converting from DVC format to MPEG format. Not only does the present application do the opposite, but even were dummy data inserted into the header of a DIF data block, as the Examiner asserts is taught by Inoue, that has no relevance to how data is inserted into the data field that *follows* the header.

Oskouy is even less applicable to the claimed limitation, because the portions cited by the Examiner pertain to prescreening, or filtering, the MPEG data before it is even delivered to a receiver. Even assuming that one of the receivers is a DVC recording device, all that Oskouy would teach is that the delivered MPEG data might not include defective packets; Oskouy does

not indicate at all how the delivered MPEG data is to be stored at the receiver, and certainly does not teach writing the data into a data field of a DIF block, not including the first byte of that data field. Thus, independent claim 5, as well as its dependent claims 6-9, further distinguishes over the cited combination of Inoue, Okuyama, and Oskouy, and the Examiner's rejection of these claims should be reversed.

Independent claims 10 and 13 includes the limitations of "copying . . . transport stream data, in an MPEG format . . . into respective data fields of at least one DIF block of a digital video frame not including the first byte of said data block" and "storing said digital video frame, that includes said MPEG formatted data." Therefore independent claims 10 and 13, as well as their respective dependent claims 11, 12, 14, and 15 are patentable over the cited prior art for all of the reasons discussed with respect to claims 1 and 5, and the Examiner's rejection of these claims should be reversed.

3. Rejection of claims 16-18 under 35 U.S.C. §103(a) over the combination of Inoue, Okuyama, and Yanagihara

Independent claims 16 and 17 include the limitations of "copying said quantity of said MPEG transport stream data, in an MPEG format . . . into a data field of at least one DIF block of a digital video frame" and "storing said at least one digital video frame, that includes said MPEG formatted data." Independent claim 18 includes the limitation of "a frame packetizer to copy said MPEG data, in an MPEG format and without conversion to another format, into a DIF data block of a digital video frame not including the first byte of said data block." Therefore claims 16-18 are patentable over the cited prior art for the same reasons as is claim 1, and the Examiner's rejection of these claims should be reversed.

4. Rejection of claims 19 under 35 U.S.C. §103(a) over the combination of Inoue, Okuyama, Yanagihara, and Takeda.

Dependent claim 19 depends from claim 18 and is patentable over the cited prior art for the same reason as is claim 18, and the Examiner's rejection of this claim should be reversed.

CONCLUSION

The Examiner's respective rejections of claims 1-19 should be reversed, and the claims should be found patentable.

Respectfully submitted,

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CLAIMS APPENDIX

1. A method of processing MPEG transport stream data comprising the steps of:

(a) copying said MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one DIF block formatted for digital video; and

(b) storing said at least one DIF data block, that includes said MPEG data, on a storage medium in a digital video storage format.

2. The method of claim 1 wherein said storage medium comprises a digital video tape.

3. The method of claim 1 further comprising the step of copying said DIF block to a payload portion of an isochronous data transfer packet

4. The method of claim 1 further comprising the step of repeating said copying of said data to another said DIF block.

5. A method of storing MPEG transport stream data on a digital video recorder comprising the steps of:

(a) copying said MPEG transport stream data, in an MPEG format and including an MPEG header, into the respective data fields of at least one video DIF block of a digital video frame not including the first byte of said data field; and

(b) storing said digital video frame, that includes said MPEG formatted data, on a storage medium.

6. The method claim 5 wherein said storage medium comprises a digital video tape.

7. The method of claim 5 further comprising the step of copying said digital video frame into an isochronous data transfer packet.

8. The method of claim 5 further comprising the step of repeating said copying of said transport stream data to another said DIF block.

9. The method of claim 8 wherein said another DIF block is a data element of another said digital video frame.

10. A method of storing MPEG transport stream data with a digital video recorder comprising the steps of:

(a) copying said MPEG transport stream data, in an MPEG format and including an MPEG header, into respective data fields of at least one DIF block of a digital video frame not including the first byte of said data block;

(b) copying said digital video frame to an isochronous data packet;

(c) extracting said digital video frame from said isochronous data packet; and

(d) storing said digital video frame, that includes said MPEG formatted data, in a digital storage medium.

11. The method of claim 10 further comprising the step of repeating said copying of said transport stream data to another DIF block.

12. The method of claim 11 wherein said another video data block is a data element of another said digital video frame.

13. A method of storing MPEG transport stream data on a digital video recorder comprising the steps of:

(a) copying said transport stream data, in an MPEG format and including an MPEG header, into an isochronous data transfer packet;

(b) extracting said transport stream data, in an MPEG format, from said isochronous data transfer packet;

(c) copying said transport stream data, in an MPEG format, into respective data fields of at least one DIF block of a digital video frame not including the first byte of said DIF block; and

(d) storing said digital video frame, that includes said MPEG formatted data.

14. The method of claim 13 further comprising the step of repeating said copying of said transport stream data to another DIF block.

15. The method of claim 14 wherein said another DIF block is a data element of another said digital video frame.

16. A method of storing MPEG transport stream data including an MPEG header, with a digital video recorder comprising the steps of:

(a) accumulating a quantity of said MPEG transport stream data equal to a digital video frame data quantity;

(b) copying said quantity of said MPEG transport stream data, in an MPEG format, into a data field of at least one DIF block of a digital video frame;

(c) repeating said copying of said quantity of said MPEG transport stream data, in an MPEG format into a data field of another said DIF block as another said quantity of MPEG transport stream data is accumulated;

(d) copying at least one said digital video frame including said DIF block to a data transfer packet;

(e) extracting said at least one digital video frame from said data transfer packet; and

(f) storing said at least one digital video frame, that includes said MPEG formatted data not converted to another format.

17. A method of storing MPEG transport stream data with a digital video recorder comprising the steps of:

(a) copying said MPEG transport stream data to a data transfer packet;

(b) extracting said MPEG transport stream data from said data transfer packet;

(c) accumulating a quantity of said MPEG transport stream data equal to a digital video frame data quantity;

(d) copying said quantity of said MPEG transport stream data, in an MPEG format and including an MPEG header, into the data field of a DIF block of a digital video frame;

(e) repeating said copying of said quantity of said MPEG transport stream data, in an MPEG format and including an MPEG header, into the data field of another said DIF data block as another said quantity of MPEG transport stream data is accumulated; and

(f) storing said digital video frame, that includes said MPEG formatted data.

18. An apparatus for storing data with a digital video recorder comprising:

(a) an accumulation buffer to accumulate a predetermined quantity of MPEG formatted data; and

(b) a frame packetizer to copy said MPEG data, in an MPEG format and without conversion to another format, into a DIF data block of a digital video frame not including the first byte of said data block.

19. The apparatus of claim 18 further comprising:

(a) a transfer packet encoder to copy said digital video frame to a data transfer packet not including the first byte of said data field; and

(b) a depacketizer to extract said digital video frame from said data transfer packet for storage.

20-23 (canceled).

EVIDENCE APPENDIX:

None.

RELATED PROCEEDINGS APPENDIX:

None.